REMARKS/ARGUMENTS

Claims 1, 2, 4-24, 44-51, 53, 55 and 57-63 are presently active in this case. Claims 1, 4, 8, 46, 51, 53 and 55 have been amended, and Claim 3, 54 and 56 having been canceled by the present Amendment.

In the outstanding Office Action, Claims 1-23, 46-51 and 53-63 were rejected under 35U.S.C.§112, second paragraph, as being indefinite; Claims 1-4 and 7 were rejected under 35U.S.C.§102(b) as being anticipated by Sogard (U.S. Patent 5,631,731); Claims 5, 6, 24, 44-51, 53, 54, 56-58, 62 and 63 were rejected under 35U.S.C.§103(a) as being unpatentable over Sogard (U.S. Patent 5,631,731); and Claims 8, 13-20, 22, 23, 59, 60 and 61 were rejected under 35U.S.C.§103(a) as being unpatentable over Sogard (U.S. Patent 5,631,731) in view of White (U.S. Patent 6,379,868 B1).

Claims 9-12, 21, and 55 were indicated as being allowable if rewritten to overcome the rejections under 35U.S.C.§112, second paragraph, and to include all of the limitations of the base claim and any intervening claims. Applicants acknowledge with appreciation the indication of allowable subject matter. However, because Applicants believe that they are entitled to the scope of protection defined by independent claims 8 and 51, claims 9-12, 21, and 55 have been maintained in dependent form.

Claim Rejections under 35U.S.C. .§112

In response to the rejection of claims 1-23, 46-51, and 53-63 under 35 USC 112, first paragraph, Applicants have amended independent claims 1, 8, 46, and 51 to remove the relative limitation "in a [the] vicinity." No further rejection under 35 USC 112, first paragraph, is therefore anticipated.

Claim Rejections under 35U.S.C. §102(b) and §103(a)

In response to the prior art rejections, Applicants first would like to address the scope of the teachings of the applied art. Sogard describes a structure which requires

positioning a slit having an equivalent width less than a wavelength of a light source in a first plane proximate to an image plane of an optical projection lithograph system, moving the slit across and within the first plane, detecting the intensity of the light transmitted though the slit, and analyzing the properties of an optical system.

Sogard further describes in column 6, lines 40-44 regarding the slit that the "slit must be at least less than λ in order to pass all the spatial frequency components of the incident wave. For a coherent image produced by a lens with numerical aperture NA, the maximum spatial frequency is NA/λ." However, Sogard neither discloses nor suggests that "a width of said at least one slit-shaped aperture pattern in a second direction perpendicular to said first direction being greater than zero, and equal to or under said wavelength λ of said illumination light divided by said numerical aperture N.A. of said projection optical system (λ/N.A.)," as defined by independent Claims 1 and 46 of the present application (as amended).

White describes a structure wherein dark-field resolution enhancement is obtained by introducing radiation from a light source onto a patterned mask. White describes in column 5, lines 53-60 that:

> a feature that is too small to be resolved is a feature that provides a blurred image that has an intensity that is less than is required for a resolvable feature. For example, a feature that is too small to be resolved is a feature that provides a blurred, approximately circular image. The approximately circular image has a diameter in the range of about 0.25 λ/NA to about 0.5 λ/NA.

The official action asserts that in view of the teachings of White, "it would have been obvious that the [slit] dimensions are set in consideration of the resolution, for the slit's dimensions are considered in relation to numerical aperture and wavelength which define resolution." Applicants respectfully traverse. Applicants submit that a person of ordinary skill in the art would not have utilized the general teachings regarding resolution described by White with the slit width teaching disclosed by Sogard in order to obtain a structure wherein the width of

an aperture pattern is set in consideration of the resolution of a predetermined mark. No motivation for making such a combination has been provided. Further, column 3, line 61 - column 4, line3 of Sogard provides that basic lens aberrations such as spherical aberration, coma, and astigmatism are separately determined, and further that additional sets of line patterns of different line width can be used to optimize exposure conditions. However, Sogard neither discloses nor suggests a structure in which a telecentricity of a projection optical system is obtained by utilizing an aerial image.

In addition, Sogard describes a test pattern as shown in Fig. 2, however, Sogard neither discloses nor suggests a structure wherein the self-measurement master is mounted "at a position different from a position where a mask on which said predetermined pattern is formed is mounted" as defined by amended Claim 51.

For the foregoing reasons, Sogard is not believed to anticipate or render obvious the subject matter defined by independent claims 8 and 51 when considered alone or in combination with White.

Consequently, in view of the present amendment and in light of the above discussion, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for allowance.

Respectfully submitted,

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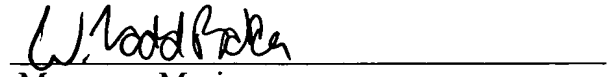

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